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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,385	09/26/2003	Kyunghye Ahn	17012Z (PC17508B)	4246

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EXAMINER	
KANTAMNENI, SHOBHA	
ART UNIT	PAPER NUMBER
1617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/671,385	AHN ET AL.	
	Examiner	Art Unit	
	Shobha Kantamneni	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) NONE is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 09/26/2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

This application filed on 09/26/2003, is a CON of 09/771,529 filed on 01/29/2001 ABN which claims benefit of 60/197,484 field on 04/17/2000.

Claims 1-8 are pending, and examined herein.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of decreasing amyloid plaque formation in a cell population comprising contacting said cell population with an effective amount of a compound as in claim 1, **does not reasonably provide enablement for a method of inhibiting amyloid plaque formation** in a cell. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention **commensurate in scope** with these claims.

Claims 6-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating amyloidosis in a patient comprising administering an effective amount of a compound as in claim 6, **does not reasonably provide enablement for a method of inhibiting amyloidosis** in a

patient. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention **commensurate in scope** with these claims.

The claims are directed to a method of inhibiting amyloid plaque formation in a cell population, and a method of inhibiting amyloidosis in a patient. The specification fails to adequately teach how to use the herein claimed method for inhibiting amyloid plaque formation or inhibiting amyloidosis in a patient.

The instant specification fails to provide information that would allow the skilled artisan to practice the instant invention without undue experimentation. Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

(1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

(1) The Nature of the Invention:

The rejected claims are drawn to a method of inhibiting amyloid plaque formation in a cell population or a method of inhibiting amyloidosis in a patient. comprising administering an effective amount of a compound as in claim 1 or claim 6.

(2) Breadth of the Claims:

The instant claims embrace a variety of compounds in inhibiting amyloid plaque formation in a cell population or inhibiting amyloidosis in a patient

(3) Guidance of the Specification / Working Examples:

The instant specification on pages 22-24, provides data for Aβ secretion inhibitory activity of some of the instant compounds. It is disclosed that instant compound No.1 resulted in a 6.5-fold decrease in secreted Aβ. The dose-dependent effect on Aβ secretion of invention compounds is shown in Figure 2.

In the instant case, no working examples are presented in the specification as filed showing how to inhibit i.e prevent amyloid plaque formation in a cell population or inhibit amyloidosis in a patient totally, absolutely, or permanently, not even occurring at the first time.

(4) State/predictabilitv of the Art:

The relative skill of those in the art is high with respect to decreasing amyloid plaque formation or treating amyloidosis. However, the relative skill in the art and predictability is low with respect to inhibiting amyloid plaque formation in a cell population or inhibiting amyloidosis in a patient. "To inhibit" actually means "To prevent", which actually means to anticipate or counter in advance, to keep from happening etc. (as per Webster's II Dictionary). Pharmacological activity in general is a very unpredictable area. Note that in cases involving physiological activity such as the instant case, "the scope of enablement varies inversely with the degree of unpredictability of the factors involved". See In re Fisher, 427 F.2d 833, 839 (1970). It is well known that amyloidosis associated

with normal aging usually affects the heart. What causes amyloid to build up in the heart, other than age, usually is not known. Further, note on page 1, lines 18-20 of the instant specification it is recited that "The process by which amyloidosis occurs is not well understood but involves Aβ which is found in extracellular spaces like cerebrospinal fluid (CSF) of the brain and conditioned media of many cell types. Thus the skilled artisan would view that inhibiting i.e preventing amyloidosis in a patient in need of such treatment totally, absolutely or permanently is highly unpredictable using the instantly claimed compounds.

(5) The Quantity of Experimentation Necessary:

There is no working example provided for inhibiting amyloid plaque formation in a cell population or inhibiting amyloidosis in a patient. Therefore, Applicant fails to provide information sufficient to practice the claimed invention, absent **undue experimentation**.

Genetech, 108 F.3d at 1366 states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the Wands factors, e.g., the amount of direction or guidance provided, absence of working examples, and the predictability of the art discussed above, to practice the claimed invention herein, a person of skill in the art would have to test the instant compounds, in the instant claims to be

administered to a host employed in the claimed methods of the particular treatments herein, with no assurance of success.

Accordingly the claims are evaluated as method of decreasing amyloid plaque formation in a cell population or a method of treating amyloidosis in a patient, and not method of inhibiting amyloid plaque formation in a cell population or inhibiting amyloidosis in a patient

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobrusin et al. (WO 98/34921, PTO-1449) in view of Bhide et al. (WO 97/30992, PTO-1449) and Mirzabekov et al. (BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1994, 202 (2), 1142-1148, PTO-1449).

Dobrusin et al. discloses that the active compounds of formula I-II therein, within instant claims, are inhibitors of farnesyl protein transferase, known useful in a pharmaceutical composition and methods of treating cancer in animals. Dobrusin et al. teaches that the active compounds therein possess antiproliferative effects. See abstract, page 4 lines 18-19 and 30-32, pages 8-9

Formula II, page 15 line 19, page 18 lines 27-28, pages 28-29, and claims 1, 22, and 27.

Dobrusin et al. discloses does not expressly disclose a method of decreasing amyloid plaque formation in a cell population, a method for treating amyloidosis in a patient, and a method of treating Alzheimer's disease employing the effective amounts of the active compounds herein.

Bhide et al. teaches that farnesyl protein transferase inhibitors are useful in the treatment of neurodegenerative diseases, e.g., Alzheimer's disease and dementia. See abstract.

Mirzabekov et al. teaches that Alzheimer's disease pathology is characterized by plaques, tangles, and neuronal cell loss and the main constituent of plaques is beta-amyloid peptide (Aβ). See abstract and page 1142.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the effective amounts of the active compounds herein in a method of decreasing amyloid plaque formation in a cell population, a method for treating amyloidosis in a patient, and a method of treating Alzheimer's disease.

One having ordinary skill in the art at the time the invention was made would have been motivated to employ the effective amounts of the active compounds herein in a method of decreasing amyloid plaque formation in a cell population, a method for treating amyloidosis in a patient, and a method of treating Alzheimer's disease since these compounds are farnesyl protein transferase inhibitors according to Dobrusin et al. It is known that farnesyl protein

transferase inhibitors are useful in a method of the treatment of neurodegenerative diseases, e.g., Alzheimer's disease and dementia according to Bhide et al. Moreover, it is well known that Alzheimer's disease pathology is characterized by amyloid plaque formation in a cell population or amyloidosis. Therefore, the active compounds of Dobrusin et al. would have been reasonably expected to be beneficial in a method of decreasing amyloid plaque formation in a cell population, a method for treating amyloidosis in a patient, and a method of treating Alzheimer's disease.

Thus the claimed invention as a whole is clearly prima facie obvious over the combined teachings of the prior art.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Monday-Tuesday, Thursday-Friday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni
Patent Examiner
Art Unit : 1617

SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER